

IN THE CLAIMS:

Please amend claims 5 and 6 as presented below. Please cancel claims 3, 4, 7 and 8 without prejudice or disclaimer.

1. (Previously Presented) A shape processor for imitating the shape of an object in a three-dimensional space, the shape processor comprising:

a reference information acquiring unit for acquiring reference body information for specifying the shape of a reference body which is a tetrahedron composed of four identical faces which are isosceles triangles, wherein the ratio of lengths of its sides is $2 : \sqrt{3} : \sqrt{3}$, side setting information for setting two sides of said reference body perpendicular to each other as first and second sides, and face setting information for setting two faces sharing said first side of said reference body as first and second faces, and for assigning the values of 0 to one of the two faces sharing said first side, and for assigning 1 to the other of the two faces sharing said first side;

an approximating unit for forming a chain of the reference bodies by connecting said first side of a first reference body and said second side of a second reference body, and for imitating the shape of an object using the chain of said reference bodies, by putting either said first or second face of said first reference body on the corresponding face of said second reference body, according to the information representing the shape of the object and the information acquired by said reference information acquiring unit; and

an approximation information storage unit for storing approximation information representing which of said first and second faces of said first reference body is put on the corresponding face of said second reference body by sequence of 0 or 1 assigned to one two faces of said reference body which is put on the corresponding face of the adjacent reference body.

2. (Previously Presented) A shape processor for reproducing the shape of an object in a three-dimensional space, the shape processor comprising:

a reference information acquiring unit for acquiring reference body information for specifying the shape of a reference body which is a tetrahedron composed of four identical faces which are isosceles triangles, wherein the ratio of lengths of its sides is $2 : \sqrt{3} : \sqrt{3}$, side setting information for setting two sides of said reference body perpendicular to each other as first and second sides, and face setting information for setting two faces sharing said first side of said reference body as first and second faces, and for assigning the values of 0 to one of the two faces sharing said first side, and for assigning 1 to the other of the two faces sharing said first side;

an approximation information acquiring unit for acquiring approximation information representing which of said first and second faces of said first reference body included in a chain of the reference bodies formed by connecting said first side of a first reference body and said second side of a second reference body is put on the corresponding face of said second reference body connected to said first reference body, by sequence of 0 or 1 assigned to one two faces of said reference body put on the corresponding face of the adjacent reference body; and

and an reproducing unit for forming chain of the reference bodies by connecting said first side of a first reference body and said second side of a second reference body, and for reproducing the shape of an object using the chain of reference bodies by putting either said first or second face of said first reference body on the corresponding face of said second reference body, according to the information acquired by said reference information acquiring unit and the approximation information acquired by said approximation information storage unit.

3. (Cancelled).

4. (Cancelled).

5. (Currently Amended) A shape processing program embodied in a computer-readable media for imitating the shape of an object in a three-dimensional space, the shape processing program comprising:

a reference information acquiring module for acquiring reference body information for specifying the shape of a reference body which is a tetrahedron composed of four identical faces which are isosceles triangles, wherein the ratio of lengths of its sides is $2 : \sqrt{3} : \sqrt{3}$, side setting information for setting two sides of said reference body perpendicular to each other as first and second sides, and face setting information for setting two faces sharing said first side of said reference body as first and second faces, and for assigning the values of 0 to one of the two faces sharing said first side, and for assigning 1 to the other of the two faces sharing said first side;

an approximating module for forming a chain of the reference bodies by connecting said first side of a first reference body and said second side of a second reference body, and for imitating the shape of an object using said reference bodies by putting either said first or second face of said first reference body on the corresponding face of said second reference body, according to the information representing the shape of the object and the information acquired by said reference information acquiring module; and

an approximation information storage module for storing approximation information representing which of said first and second faces of said first reference body is put on the corresponding face of said second reference body by sequence of 0 or 1 assigned to one two faces of said reference body which is put on the corresponding face of the adjacent reference body.

6. (Currently Amended) A shape processing program embodied in a computer-readable media for reproducing the shape of an object in a three-dimensional space, the shape processing program comprising:

a reference information acquiring module for acquiring reference body information for specifying the shape of a reference body which is a tetrahedron composed of four identical faces which are isosceles triangles, wherein the ratio of lengths of its sides is $2 : \sqrt{3} : \sqrt{3}$, side setting information for setting two sides of said reference body perpendicular to each other as first and second sides, and face setting information for setting two faces sharing said first side of said reference body as first and second faces, and for assigning the values of 0 to one of the two faces sharing said first side, and for assigning 1 to the other of the two faces sharing said first side;

an approximation information acquiring module for acquiring approximation information representing which of said first and second faces of said first reference body is put on the corresponding face of said second reference body included in a chain of the reference bodies formed by connecting said first side of a first reference body and said second side of a second reference body; and

an reproducing module for forming chain of the reference bodies by connecting said first side of a first reference body and said second side of a second reference body, and for reproducing the shape of an object using reference bodies by putting either said first or second face of said first reference body on the corresponding face of said second reference body, according to the information acquired by said reference information acquiring module and the approximation information acquired by said approximation information storage module.

7. (Cancelled).

8. (Cancelled).